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COGNEX CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
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NATICK, MA 01760-2077

EXAMINER

WANG, RONGFA PHILIP

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2191

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/842,948	PETRY ET AL.	
	Examiner	Art Unit	
	PHILIP WANG	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 70-121 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 70-121 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2191

DETAILED ACTION

1. This office action is in response to RCE filed on 12/11/2008.
2. Per Applicant's request, claims 1-69 are canceled, claims 70-121 are new.
3. As per claims 70-121 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 70-76, 79-87, 90-95, 98-109, and 112-121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silver et al. (herein Silver, USPTN 6,931,602) further in view of Geodeon et al. (herein Geodeon, "Applying Machine Vision In Electrical Component Manufacturing").

As per claim 70,

Silver discloses

a computer including a vision tool parameters input configured to receive, at the computer, corresponding vision tool parameters corresponding to at least one of

Art Unit: 2191

selected one or more given vision tools(c1: 42-46, "...allow a user to select, via a standard user interface which may comprise a web browser included in a given computer...a machine vision tool on a separate platform", c1: 53-61, " ...via a user interface...parameters for running a machine vision tool...cause the machine vision tool be executed and use the selected parameters." The user interface is used as an input to receive vision tool parameters for a selected given vision tool.);

a transmitter configured to send, from the computer (Fig. 1, 102) **to a machine vision engine located remotely from the computer** (fig. 1, 104) **and via a communications network** (Fig. 1, 108), **(i) image data including at least one given image to be analyzed by the selected one or more given vision tools**(c6:1-25, "...sent to the machine vision tool computer...with the selected image source..."; c1: 53-61, " ...via a user interface...parameters for running a machine vision tool...cause the machine vision tool be executed and use the selected parameters.") **and (ii) the corresponding vision tool parameters** (c1: 53-61, " ...via a user interface...parameters for running a machine vision tool...cause the machine vision tool be executed and use the selected parameters.") ; and

wherein the machine vision engine is remote from the computer (as explained above, Fig. 1, computer 102 and machine vision tool computer 104 are connected over network 108) ; **and includes selectable vision tools including the selected one or more given vision tools**(c3: 20-29, "Machine vision tool computer 104 includes at least one machine vision tool.."),

Silver does not specifically disclose

Art Unit: 2191

the selectable vision tools having been configured to, when selected, carry out vision operations including pattern location on the given image.

However, Gedeon discloses

the selectable vision tools having been configured to, when selected, carry out vision operations including pattern location on the given image(page 738, right col., 5th para., "...vision system that can examine the geometry of the product, including features such as edge locations...").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Gedeon into the teachings of Silver to include the limitation disclosed by Gedeon. The modification would be obvious to one of ordinary skill in the art to want to be able to inspect parts of possible defects as suggested by Geoden (page 738, right col.)

As per claim 71, the rejection of claim 70 is incorporated;

Silver discloses

wherein the computer further includes a vision tool selector configured to receive, from a user, a selection of one or more given vision tools from among the selectable vision tools(c1: 42-46, "...allow a user to select, via a standard user interface which may comprise a web browser included in a given computer...a machine

Art Unit: 2191

vision tool on a separate platform”, c3: 20-29, “Machine vision tool computer 104 includes at least one machine vision tool...”; c4: 14-27, “...Window 606 displays a list of machine vision tools...The machine vision tool may be selected...”).

As per claim 72, the rejection of claim 71 is incorporated; Silver discloses

wherein the machine vision engine includes machine vision software encoded on computer-readable media and executed by a computer(c8: 15-21, “...a computer-readable media...”).

As per claim 73-76, the rejection of claim 71 is incorporated; Gedeon discloses

wherein the vision operations include guidance (page 748, left col. Middle, “vision guided robotic application...”), **inspection, gauging, and identification** (page 738, right col.)

As per claim 79, the rejection of claim 70 is incorporated; Silver discloses

wherein the vision tool parameters input includes a keyboard of the computer(c3: 3, “...are typed in by the user”)..

As per claim 80, the rejection of claim 70 is incorporated; Silver discloses

Art Unit: 2191

wherein the vision tool parameters input includes a mouse of the computer(c3:2-3, “ a computer mouse”).

As per claim 81, the rejection of claim 70 is incorporated; Silver discloses

wherein the vision tool parameters input includes a touch pad of the computer (c3:2, “...an pointing device...”).

As per claim 82, the rejection of claim 70 is incorporated; Silver discloses

wherein the vision tool parameters input is configured to receive the corresponding vision tool parameters via manual entry at the computer(c3: 3, “...typed in...” typing is manual entry).

As per claim 83, the rejection of claim 82 is incorporated; Silver discloses

wherein the manual entry is via a manual entry interacting with an application program run on the computer(c3:3, typing is interacting with a program on a computer.).

As per claim 84, the rejection of claim 70 is incorporated; Silver discloses

Art Unit: 2191

wherein the computer includes the transmitter (c4: 60-65, "...to transmit data..." a transmitter transmits.).

As per claim 85, the rejection of claim 70 is incorporated; Silver discloses **wherein the communications network includes an internetwork** (see Fig. 1, 108).

As per claim 86, the rejection of claim 85 is incorporated; Silver discloses **wherein the internetwork includes the Internet**(c2, 54, "...Internet...").

As per claim 87, the rejection of claim 70 is incorporated; Silver discloses **wherein the given image includes an image file**(c6, 2, "...image source...").

As per claim 90, the rejection of claim 70 is incorporated; Silver discloses **wherein the transmitter is configured to send, via the communications network, an indication of the selected one or more given vision tools** (see rejection of claim 70).

As per claim 91, the rejection of claim 70 is incorporated; Silver discloses **wherein the machine vision engine includes machine vision software encoded on computer-readable media and executed by a computer** (c8: 18, "computer-readable media").

Art Unit: 2191

As per claims 92-95, the rejection of claim 70 is incorporated; see reasons for rejections of claims 73-76.

As per claim 98, the rejection of claim 70 is incorporated; Silver discloses **a client data procurer configured to send an image acquisition command to an image acquirer to acquire image data including the given image data**(c3: 50-53, "...for communicating with an image acquiring device..." such communication is through commands.).

As per claim 99, the rejection of claim 70 is incorporated; Silver discloses **a receiver configured to receive results data originating from the machine vision engine, the results data including a result of the machine vision engine having analyzed, with the selected one or more given vision tools, the given image sent by the transmitter in accordance with the corresponding vision tool parameters sent by the transmitter**(see Fig. 1 and reason detailed in rejection of claim 70. where 102 and 104 communicate with each other over a network).

As per claim 100, the rejection of claim 99 is incorporated; Silver discloses wherein **the computer includes the receiver**(Fig. 1 shows 102 communicates with 104 over network, to communicate a receiver is included,).

Art Unit: 2191

As per claim 101, the rejection of claim 70 is incorporated; Silver discloses further comprising an **image acquirer configured to capture and store an image of a part** (fig. 4, 110 imaging acquiring device is for capture and store an image)

As per claim 102, the rejection of claim 101 is incorporated; Silver discloses wherein the **image acquirer includes a frame grabber**(fig. 4, 110 to capture it inherently includes a frame grabber, Fig. 8).

As per claim 103, the rejection of claim 101 is incorporated; Gedeon discloses **wherein the image acquirer is positioned on a production line** (page 748, left col. 2nd para., "... machine vision on the production floor").

As per claim 104, the rejection of claim 101 is incorporated; Silver discloses further **comprising the machine vision engine** (Fig. 4, 104)

As per claim 105,

Silver/ Gedeon disclose

a computer including a receiver configured to receive, from a remote source via a communications network, image data including at least one given image to be

Art Unit: 2191

analyzed by one or more given vision tools that have been selected, and corresponding vision tool parameters corresponding to the selected one or more given vision tools that have been selected to analyze the given image; the computer being configured to, following receiving certain data by the receiver, cause a machine vision engine to analyze, with the selected one or more given vision tools, the given image to be analyzed in accordance with the corresponding vision tool parameters received by the receiver; and wherein the machine vision engine includes the set of individually selectable vision tools having been configured to, when selected, carry out vision operations including pattern location(the instant claim essentially claims the receiver aspect of limitations corresponding to the transmitter aspect of limitations of claim 1. A client communicating with a remote server must have both transmitter and receiver co-exist at both end of a network to perform desired functions. The combination of Silver/Gedeon suggests an apparatus of a client/server with both transmitter and receiver. For this reason, the instant claim is rejected for similar reasons for the rejection of claim 1.)

As per claims 106-109, see rejections of claims 73-76.

As per claim 112, the rejection of claim 105 is incorporated; Silver discloses wherein **the computer includes the machine vision engine** (Fig. 4, 104).

Art Unit: 2191

As per claim 113, the rejection of claim 106 is incorporated; Silver discloses **wherein the communications network includes an internetwork**(Fig. 4, 118 shows a network).

As per claim 114, the rejection of claim 113 is incorporated; Silver wherein **the internetwork includes the Internet**(c2: 54, "...Internet...").

As per claim 115, the rejection of claim 105 is incorporated; Silver discloses wherein **the selected one or more given vision tools that have been selected have been selected at a location remote from the computer**(Fig. 4, 104 is remote from 102).

As per claim 116, the rejection of claim 105 is incorporated; Silver discloses further comprising **a validator configured to verify associated validation data to ensure client account security, the associated validation data having been associated with the received given image, the selected one or more given vision tools, and the corresponding vision tool parameters** (c8:59-66, "At P1904 the user indicates a desired machine vision tool via the web browser and the identifier of the machine vision tool is received by the machine vision tool computer. After the machine vision tool is trained and various parameters selected, as described above, the user, via the web

Art Unit: 2191

browser 204, indicates that the machine vision tool is to be executed, the machine vision tool computer receives the execution command and executes the machine “ where the identifier is user for security purposes.(41) At P1908 the machine vision tool has been executed and the output of the machine vision tool is placed in a format for presentation on the web browser 204 by the presentation portion 306.).

As per claim 117, the rejection of claim 116 is incorporated; Silver discloses wherein **the associated validation data has been received by the receiver** (Fig. 4, where client and server receives information though receiver).

As per claim 118, it is a system claim essentially claiming the same limitations of claim 70 and is rejected for similar reasons for the rejection of claim 70.

As per claim 119, it is a method claim essentially claiming the same limitations of claim 70 and is rejected for similar reasons for the rejection of claim 70.

As per claim 120, it is a computer-readable media claim essentially claiming the same limitations of claim 70 and is rejected for similar reasons for the rejection of claim 70.

As per claim 121, the rejection of claim 83 is incorporated; Gedeon discloses wherein

Art Unit: 2191

the vision tool parameters input is located in a manufacturing environment (page 748, left col. 2nd para., "... machine vision on the production floor").

5. Claims 77, 78, 96, 97, and 110-111 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silver et al. (herein Silver, USPTN 6,931,602) further in view of Geodeon et al. (herein Geodeon, "Applying Machine Vision In Electrical Component Manufacturing") and further in view of Edwards et al. (herein Edwards, "Machine vision and its integration with CIM systems in the electronics manufacturing industry").

As per claim 77, the rejection of claim 71 is incorporated;

Silver/Gedeon disclose

The vision operations include a selectable vision tool and carry out a correspond operation corresponding to the obtained operation vision tool parameters(c1: 53-61, "...via a user interface...parameters for running a machine vision tool...cause the machine vision tool be executed and use the selected parameters.").

However Silver/Gedeon do not specifically disclose

Art Unit: 2191

The selectable vision tool is guidance vision tool configured to, when selected, (i) the parameters including a model pattern and alignment operation constraints, and (ii) carry out a corresponding guidance operation corresponding to the obtained guidance operation vision tool parameters.

HOWever, Edwards discloses

The selectable vision tool is guidance vision tool configured to, when selected, (i) the parameters including a model pattern and alignment operation constraints, and (ii) carry out a corresponding guidance operation corresponding to the obtained guidance operation vision tool parameters(page 14, item 'Position Feedback is used for alignment of the work piece...as to their exact position...'; page 18, middle, "...process product models", it is inherent that in order to perform alignment, the product model information as well alignment operation constraints are available, otherwise the alignment has no base to carry out the vision operation.)

As per claim 78, the rejection of claim 77 is incorporated;

Edwards discloses

wherein the alignment operation constraints include parameters defining a minimum match quality and allowable scale and rotation change (page 16, right

Art Unit: 2191

col, top, "...edge match..." to perform edge match, minimum match quality and allowable scale and rotation change needs to be defined.).

As per claims 96-97, the rejection of claim 70 is incorporated; see reasons for rejections of claims 77-78.

As per claims 110-111, see reasons for rejections of claims 77-78.

6. Claims 88 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silver et al. (herein Silver, USPTN 6,931,602) further in view of Geodeon et al. (herein Geodeon, "Applying Machine Vision In Electrical Component Manufacturing") and further in view of Taylor, III et al. (herein Taylor, USPTN 6,813,621).

As per claims 88 and 89, the rejection of claim 87 is incorporated;

Silver/Gedeon do not specifically disclose

wherein the image file includes a JPEG file or a bmp file.

However, Taylor discloses

wherein the image file includes a JPEG file or a bmp file(c3: 36-42,

"...manipulate...JPEG...BMP...").

Art Unit: 2191

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Taylor into the teachings of Silver/Gedeon to include the limitation disclosed by Taylor. The modification would be obvious to one of ordinary skill in the art to want to be able to process commonly used JPEG and BMP format files.

Response to Arguments

In the remark,

The examiner wants to point out the discussion prior to filing RCE did not involve a Supervisory Patent Examiner.

Applicant's arguments with respect to claims 70-121 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

It is noted that any citation [[s]] to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon

Art Unit: 2191

for all that it would have reasonably suggested to one having ordinary skill in the art.

[[See, MPEP 2123]]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Wang whose telephone number is 571-272-5934. The examiner can normally be reached on Mon - Fri 8:00AM - 4:00PM. Any inquiry of general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip R. Wang/ 2/26/2009

